

purpose. However, it is of interest as a source of extractive materials.

Tannin from redwood is a good tanning agent and anti-oxidant; the phlobaphene is a source of catechol on vacuum destructive distillation. Roots and stumps on destructive distillation yield a tar richer in phenol, creosol, guaiacol, and *p*-cresol than that obtained from sapwood and heartwood. Although the tannin is not highly toxic it does help, with related materials, to make the heartwood rot resistant.

It appears from this study that most of the tanniferous material present in redwood is located in ray parenchyma and longitudinal parenchyma cells. The cell walls must contain some also, because it is unlikely that solutions would not diffuse into the walls.

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REVIEW

The Pacific Coast Ranges. Edited by RODERICK PEATTIE. Contributors Archie Binns, John Walton Caughey, Lois Crisler, Aubrey Drury, Idwal Jones, Donald Culross Peattie, Thomas Emerson Ripley, Richard Joel Russell, Judy Van der Veer, and Daniel C. Willard. 402 pp. 4 maps. 29 illustrations. \$3.75. The Vanguard Press, New York. 1946.

This volume is the fourth in a popular series of books written about the American mountains. The three previous volumes have been published under the titles *The Rocky Mountains*, *The Great Smokies and the Blue Ridge*, and *The Friendly Mountains* (Green, White, and Adirondacks). In this volume, *The Pacific Coast Ranges*, a capable editor and equally capable contributors have presented in non-technical language and in a narrative form an exceptional amount of general scientific and historical information. The scope and varied nature of the subject matter make a detailed review difficult and impractical. However, an outline of the thirteen chapters or narratives will give an idea of the extensive subject matter treated.

The California missions and the first peoples of the Coast Ranges furnish the subject material for the first two chapters, "Father Serra's Rosary," by Donald Culross Peattie and "The First Inhabitants of the Coast Ranges," by John Walton Caughey. The two authors give slightly different interpretations of the fate of the Indians upon secularization of the missions. In the first chapter, page eleven, we read:

The missions were secularized, that is reduced to parish churches with a single priest, and stripped of everything except the immediate buildings themselves. First, many of the pioneering padres who had been men of education and high ideals, were supplanted by inferior friars,

. . . . Then the lands, which the fathers held in trust for the Indians and brought to high productivity, were taken over and given in immense feudal tracts to settlers from Mexico, the rancheros and ranchmen. *The Indians who had given up their native life for the white man's way, were stripped of both at once, and so driven to beggary or to acts of violence for which they could be punished.*

In the second chapter, page forty-two, we read :

The missions, therefore, were secularized. As religious institutions they were transformed into parish churches. The Indians were released from the friars' paternal care and were put on their own. From the property that had been accumulated and held in trust for the Indians, *each released neophyte was allotted a reasonable amount.* Secular administrators controlled the oftentimes considerable residue, and the surplus lands reverted to the state, which was ready to parcel it out generously to prospective rancheros.

In the second account, written by Dr. John Caughey, the historian, it appears that the Indians were given slightly more consideration at the time the missions were secularized.

The third narrative, "Footsteps of Spring—a Wild Flower Trail," by Donald Culross Peattie, gives an account of the native vegetation of the Coast Ranges as it comes into flower, beginning in the south and continuing to the north. The botanical information here included and style of presentation could only be written by one versed in botany and possessed of the gift of writing, as is the good fortune of Mr. Peattie.

In chapter four, "Glimpses of Wild Life," Aubrey Drury gives brief but interesting accounts of the distribution and habits of bears, various deer, cats, coyotes and other mammals, birds, and fish of the stream and sea.

Judy Van der Veer in chapter five presents in an entertaining manner some aspects of the human, animal, and plant life of the foothills of the Coast Ranges of California as observed in summer, fall, winter, and spring.

Further insight is given into some of the variety of wild life and people living in the Coast Ranges of California in the next chapter, "Farm, Rock, and Vine Folk," by Idwal Jones.

John Caughey in chapter seven, "Headlands in California Writing," writes of the earliest manifestations of literary talent in California, namely that of the primitive Indians. This is followed by a brief account of Spanish annals, writings of early explorers and travellers, writings stimulated by the gold rush period, writers of the second generation, and the moderns. Caughey's excellent knowledge of California history adds greatly to this narrative on California writing.

One of the lesser explored areas of the Pacific Coast Ranges, the Olympics, furnishes the subject material of chapter eight. This narrative, entitled "The Wilderness Mountains," was written by Lois Crisler, former instructor of English at the University of Washington and now an inhabitant of the Olympic area. Mrs.

Crisler gives the reader many illuminating glimpses of the pioneers, the history, the mountains, and the life of the "dark realm of the Olympics."

Since lumber is one of the main products of the forested regions of the Pacific Coast Ranges, particularly in the Northwest, the chapter on timber by Thomas Emerson Ripley comes as no surprise. The surprise comes, however, in the amount of interesting and instructive material—from the explorations of David Douglas to modern logging and conservation—that is included in the twenty-three pages of narrative comprising chapter nine.

Chapters ten and eleven, "People of the Oregon Coast Range" and "People of the Washington Coast Range" respectively, were written by Archie Binns, the well-known writer of novels having their background in the great Northwest. These two chapters contain many human interest stories associated with the early frontier, the hills, the coast line, lonely valleys, mountains, rivers, and inlets. These stories are so well integrated with the history of the region that one feels that he has been reading the history of the Oregon and Washington Coast Ranges written by one not only gifted as a writer but as an historian.

In most strictly scientific treatments of geographical areas the geology and climatic conditions are usually given in the introduction or in the early sections. The editor of *Pacific Coast Ranges* has placed these subjects in the last two chapters. This seems to the reviewer to be good practice, because, as the editor states, "But until the lay reader has learned some place geography, some variety of landscape, he or she is not ready to understand geology (and climatology)." "The Geological Story," the title of chapter twelve, was written by Professor Daniel E. Willard in a popular yet a scientific vein, a style of writing of which so few scientists are capable.

The last chapter, "Climatic Transitions and Contrasts," by Professor Richard Joel Russell, contains the statistical data and other more interesting facts about the climate and its effects upon the Pacific Coast Ranges from Puget Sound to the Gulf of Mexico.

After reading the thirteen chapters, full of information, about the first inhabitants of the Coast Ranges, the California missions, the wild flowers, shrubs, trees, animals, the foothills, the wilderness areas, the people of the Oregon and Washington Coast Ranges, the geological story, and the climatic transitions and contrasts, one is inclined to agree with the editor when he says that he does not have the answer to the question, "Why do people live in the East?."

The twenty-nine excellent photographs of varied and well-selected subjects and the four maps add greatly to the enjoyment and value of the book.—H. E. McMINN, Mills College, California.